

Periodic Effective Medium Description of LHM

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When the wavelength inside a periodically structured Left Handed Material (LHM) becomes comparable to or larger than the characteristic length (the period) of the LHM its description as a uniform homogeneous effective medium breaks down. In this case it is still possible to employ a periodic medium consisting of alternating layers of a properly chosen dielectric of constant permittivity and a uniform homogeneous LHM. This scheme extends the validity of the effective medium concept well beyond its homogeneous version.